

**CLAIMS**

1. Optical board connector assembly (8) for optically connecting an array of optical fibres (40) to a circuit board embedded device (4) comprising:

- a connector housing (11) comprising a support structure (33);

- at least one fibre fixation part (9)

**characterized in that**

said fibre fixation part (9) comprises a ferrule part (10) for containing said optical fibres (40) and a support part (22)

10 adapted to cooperate with said support structure (33) such that said ferrule part (10) protrudes at least partly from said connector housing (11).

2. Optical board connector (8) assembly according to claim 1, wherein said assembly (8) comprises at least one resilient member (37) adapted to exert a force on said fibre fixation part (9) in the direction of said protruding ferrule part (10).

3. Optical board connector assembly (8) according to claim 2, wherein said at least one resilient member (37) is pre-biased.

20 4. Optical board connector assembly (8) according to claim 2 or 3, wherein said connector housing (11) comprises a space (70) adapted to accommodate said optical fibres (40) in a variety of bending states.

25 5. Optical board connector assembly (8) according to any one of the preceding claims, wherein said ferrule part comprises a two-dimensional high-density array of holes for containing said optical fibres.

30 6. Optical board connector assembly (8) according to any one of the preceding claims, wherein said ferrule part (10) comprises a plurality of high-density through-holes (20) comprising substantially straight edges (21).

7. Optical board connector assembly (8) according to claim 6, wherein said holes (20) have a substantially polygonal shape, preferably octagonal.

35 8. Optical board connector assembly (8) according to any one of the preceding claims, wherein said connector housing

(11) is adapted to allow float of said fibre fixation part (9) in one or more directions.

9. Optical board connector assembly according to any one of the preceding claims, wherein said fibre fixation part 5 (9) comprises a cavity for receiving said optical fibres (40).

10. Optical board connector assembly according to any one of the preceding claims, wherein the fibre fixation part (9) includes a location surface (23) positioned a distance from an outer surface of the ferrule part (10) in the direction of protrusion of the ferrule part (10).  
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11. Optical board connector assembly according to claim 10, wherein the location surface (23) includes an opening (24) for receiving an alignment pin (52).

12. Optical board connector assembly according to claim 15 10, wherein the connector (8) includes a plate (51) against which the location surface (23) abuts.

13. Fibre fixation part (9) for use in an optical board connector assembly (8) according to any one of the preceding claims.